IN THE CLAIMS:

1. (Currently Amended) An improved method of oxidizing undesirable compounds residing within a liquid based gas processing system comprising:

(a) first heating a liquid absorbent containing undesirable compounds within a reboiler chamber to its boiling temperature, which is a temperature above the boiling point of water and below the temperature of degradation of said absorbent, to produce vaporized effluents;

(b) condensing said effluents within a condenser;

(c) transporting residual uncondensed effluents to and through a vaporizer wherein said effluents are first heated to re-vaporize any ambient condensed liquids;

(d) transporting and introducing said re-vaporized effluents to a thermal oxidizer combustion chamber separate from some reboiler wherein said re-vaporized effluents are second heated to a temperature necessary to effectuate thermal destruction of undesirable compounds;

(e) transporting and introducing said second heated effluents from said thermal oxidizer combustion chamber to and through the internal portions of a heat recovery tube bundle, said introduction and transport generating external tube surface temperatures sufficient to raise a liquid glycol based absorbent in contact therewith to its boiling temperature; and

(f) transporting said second heated effluent from said tube bundle to and through a reboiler vent stack.

2. (Previously Amended) The method as set forth in Claim 1 wherein said absorbent is diethylene glycol.

3. (Original) The method as set forth in Claim 1 wherein said absorbent is triethylene glycol (TEG).

4. (Original) The method as set forth in Claim 1 wherein said absorbent is one of a group of absorbents including ethylene glycol, tetraethylene glycol or glycerin.

5. (Previously Amended) The method as set forth in Claim 1 wherein said undesirable compounds include benzene, toluene, ethylbenzene and xylene.

6. (Original) The method as set forth in Claim 1 further comprising the step of preheating said absorbent prior to its introduction into said reboiler.

7. (Original) The method as set forth in Claim 6 wherein the step of preheating said absorbent prior to its introduction into said reboiler is accomplished by said absorbent's traversing of a heating means incorporated within a thermal oxidizer vent stack.

8. (Previously Amended) The method as set forth in Claim 1 wherein said transporting and introducing said second heated effluents to and through the internal portions of a heat recovery tube bundle occurs at a controlled rate to regulate said external tube surface temperature by a controlled venting mechanism in a vent stack of said thermal oxidizer chamber and in said reboiler vent stack.